

which the young *Rhinops* lay with its head close to the contractile vesicle, and its foot close under the mastax.

My specimens average $\frac{1}{80}$ inch in length, and have been living in captivity for upwards of a week.

X.—*Descriptions of new Genera and Species of Tenebrionidæ from Australia and Tasmania.* By FRANCIS P. PASCOE, F.L.S., F.Z.S., &c., Honorary Member of the Natural History Society of Natal.

[Plate X.]

DR. HOWITT, of Melbourne, having recently sent me a large collection of Heteromera from Australasia and New Zealand, I propose to describe in this Magazine such of the new Australian species as belong to the family Tenebrionidæ, adding several more derived from other sources, leaving the remainder and those from New Zealand for a future opportunity.

The Tenebrionidæ* belong preeminently to the hot and dry regions of the earth; the epigeous or more normal forms are found in very small numbers, either in the humid lands of the tropics or in the northern parts of the northern hemisphere. England contains only seventeen (or, with the doubtful and introduced, twenty-seven) species, while the countries surrounding the Mediterranean have, according to M. de Marseul's Catalogue, 1327 species. From Australia and Tasmania we have about 210 described—a number probably far below that contained in the rich collections of Melbourne and Sydney, and which we cannot doubt will be still greatly increased as those countries are more explored. The lists which Dr. Howitt has favoured me with from time to time bear evidence of the narrow limits in which a large number of species are localized.

There is some confusion in regard to the use of the terms for those parts of the elytra known as the "epipleura" and the "epipleural fold"†, which it is necessary to notice: when

* In the sense in which it is constituted by M. Lacordaire (Gen. des Coléopt. t. v.). The great advantage of having a standard which is in everybody's hands appears to me to render it desirable to conform as closely as possible to the classification and to the principles of analysis applied to the characters of the various divisions of the family. Only, for the sake of greater simplicity, I have called his "tribus" and "groupes" (the latter often of equal rank with the former) subfamilies. The "sections" and "cohorts," being merely designations of the primary branches of a dichotomous arrangement, do not themselves form natural divisions.

† "*Repli épipleural*" of M. Lacordaire. "Fold" is a bad rendering of "*repli*," but I know of none better. Dr. Leconte does not appear to notice this part.

only one is present or strongly marked, either term is often used indifferently; while the former, in a second sense, is supposed to express generally the descending or inflected sides of the elytra. In future I propose to use the term "epipleura" for that part of the flank of the elytron marked off from the rest by a line more or less sharply defined; when there is a descending side above this line, as in *Zopherosis*, I propose to call it the "pleura." This should have been the epipleura, if the word had been used in the strictest sense; but it is too late now to attempt to alter its ordinary signification. The stripe along the lower border of the epipleura will be the "epipleural fold" (*plica epipleuralis*); when nearly obsolete, there is still very often a sort of raised line or border which marks its position. Good examples of well-marked epipleura and epipleural fold, without the pleura, will be found in our common *Blaps mortisaga*, or, still better, in the genus *Acis* (*Akis*).

ORCOPAGIA.

Subfamily BOLETOPHAGINÆ.

Antennæ clavatæ, 10-articulatæ; clava biarticulata.

Tibiæ anticæ crescentiformes.

Head vertical, deeply sunk in the prothorax, excavated in front between the eyes and clypeus, the latter cornuted, the lip lying in the space between the mandibles; antennary ridge bilobed. Eyes small, transverse, impinged on by the antennary ridges, but not divided. *Antennæ* clavate, ten-jointed, the scape elongate; the third joint longer than the second, the rest to the eighth gradually shorter, the ninth and tenth forming a large oval pubescent club, the latter twice as large as the former. *Mentum* subcordiform; lower lip transverse, broadly emarginate, and fringed anteriorly, its palpi short, with the last joint large, obovate. *Maxillæ* with the lobes of equal breadth; the palpi moderate, with the last joint cylindrical and obliquely truncate. Prothorax transverse, rounded, crenate, and expanded at the sides, but not foliaceous, elevated and compressed above, and projecting over the head at the apex. Elytra elongate, parallel, narrower than the prothorax, posteriorly abruptly declivous, sides nearly vertical; the epipleuræ indistinct. Legs short; femora not thickened; tibiæ compressed, the outer edges 5-6-toothed, the anterior crescent-shaped, the intermediate arched externally. Prosternum elevated, rounded, not produced behind. Mesosternum entire. Metasternum moderately elongate. Intercoxal process narrowly triangular. Body tuberculate; prothorax and elytra above in an even plane throughout.

There are three genera of Boletophaginæ with ten-jointed antennæ: one is North American (*Phellidius**, Leconte), another (*Ozolais*, Pasc.) is from Ega, on the Amazons, and the above†; as might be expected from three such widely separated localities, there is very little affinity between them. There are several genera, some new, with eleven-jointed antennæ, which, as they do not belong to Australia, I propose to consider in a future article: one of them has been recently published as a *Diceroderes* (*D. elongatus*, Redtenbacher), but it is a true Boletophagin (*Dysantes*, MS.).

Orcopagia monstrosa. Pl. X. fig. 8.

O. elongata, indumento rufo-ferrugineo vestita, subtus pedibusque squamosis.

Hab. Clarence River.

Elongate, covered above and on the head with a reddish-ferruginous felt-like substance; beneath and legs with small scales of a yellower colour; head completely concealed above by the prothorax, the horn on the clypeus horizontal (in reference to the body); prothorax longitudinally excavated above, the excavation bordered above with a row of tubercles, except posteriorly, where it is also notched for the reception of part of the scutellum; the latter oblong rounded, a little raised; elytra irregularly tuberculate, particularly a strongly marked crest, which is also tuberculate, on each side of the scutellum, and projecting forwards on the prothorax at the edge on the declivous portion on each side a conical tuberculate projection. Length 4 lines.

ULODICA.

Subfamily *ULODINÆ*.

Antennæ haud clavatæ; art. 3^{io} quam 4^{tus} duplo longiore.

Prothorax transversus, utrinque rotundatus, marginibus squamosis.

This genus differs from *Ulodes*‡ in its antennæ having the third joint much longer than either the second or fourth. *Ulodes* has the remarkable character of having all the joints of equal length, the last three, as in *Ulodica*, being pubescent, while all the others are covered with stiff scale-like hairs arranged in dense whorls. The genus was referred by its author, as well as by M. Lacordaire (to whom, however, it was

* = *Boletotherus*, Candèze. The name in the text has priority.

† It was briefly characterized by me in the Proc. Entom. Soc. for April last (1868).

‡ Erichson in Wiegmann's Archiv, 1842, i. p. 180, Taf. 5. fig. 1. To this genus also belongs *Endophlæus variicornis*, Hope: the same author's *E. australis* is a *Dipsaconia*.

unknown), to the vicinity of *Boletophagus*. From the subfamily to which the latter belongs, all the species, as well as those of the cognate genera which have come under my notice, differ in being destitute of the transverse excavation which occurs behind the insertion of the mentum of the *Boletophaginae*; and, so far as I know, they have globose, not cylindrical, anterior coxæ. Probably, if the illustrious author of the 'Genera' had known any of the species, he would have made *Uloides* the type of another group, as I have now ventured to do. The four genera which constitute the subfamily at present may be tabulated thus:—

Antennæ clavate	<i>Ganyme</i> , Pasc.
Antennæ not clavate.	
Prothorax scaly at the sides.	
Antennæ with the third joint longest	<i>Ulodica</i> , Pasc.
Antennæ with the third joint not longer than the rest	<i>Uloides</i> , Er.
Prothorax ciliated at the sides	<i>Dipsaconia</i> , Pasc.

Ulodica hispida.

U. oblonga, fusca, dense brunneo-nigroque squamosa; prothorace disco quadri-verrucoso-fasciculato.

Hab. Clarence River.

Oblong, dark brown, closely covered with pale reddish brown, varied with black, scales; head with small dull reddish-brown scales; antennæ brownish grey ringed with black—principally the third and fourth, sixth, eighth, and base of the ninth joints; prothorax roughly scaly, the apex with two wart-like tubercles clothed with a bunch of erect blackish scales; behind the middle two similar tubercles, but of a pale brownish colour, like the rest of the disk, except a small black spot on the margin on each side; scutellum transversely oblong, scaly; elytra striato-punctate, the alternate interstices with small, blackish, wart-like tubercles, which are obscured by irregular black patches, giving the elytra a dull brownish ferruginous hue; body beneath and legs ferruginous, with greyish-yellow scales; tibiæ with a black ring in the middle. Length $3\frac{1}{2}$ lines.

Dr. Howitt has also sent me a specimen of this species, but without a locality.

GANYME.

Subfamily *ULODINÆ*.

Antennæ clavatæ, art. 3^{io} quam 4^{tus} longiore.

Oculi transversi, angustati.

Prothorax utrinque fortiter angulatus.

Head small, inserted into the prothorax nearly to the eyes, a little produced in front; clypeus indistinct; antennary ridge

very small. Eyes prominent, transverse, narrow throughout. Antennæ clavate, the joints, except the last three, surrounded with whorls of stiff hairs; scape not stouter than the other joints, the third twice as long as the second, and longer than the fourth, the remainder to the eighth becoming gradually shorter, ninth and tenth transverse, eleventh rounded, discoloured, the last three forming a short pubescent club. Oral organs apparently as in *Ulodes*, but the labium less transverse and more decidedly quadrate. Prothorax short, transverse, apex strongly emarginate, each side expanding into a broad pointed angle extending from the apex to the base, and fringed with short, curved, stoutish hairs; the base broadly lobed; the disk slightly convex, irregular. Elytra rather short, much broader than the prothorax, convex, slightly irregular, not costate, broadest at the base, the shoulders rounded and prominent. Legs shortish; tarsi slender, slightly hairy beneath, the posterior claw-joint not so long as the rest together; anterior coxæ globose, not approximate. Prosternum flat. Metasternum moderately long.

A well-marked genus, on account of its peculiar prothorax and clavate antennæ. In colour and clothing the species described below bears a striking resemblance to *Lemodes coccinea*, Boh., an anomalous form supposed to belong to the Pyrochroidæ, common in fungi under the bark of decaying trees in Victoria. *Boletophagus Sapphira*, Newm.*, is another member of this genus, larger and more brightly coloured, with the suture and borders of the elytra black.

Ganyme Howittii. Pl. X. fig. 7.

G. sordide miniacea, subsericea; antennis, art. ultimo excepto, pedibusque nigris.

Hab. Victoria; Tasmania.

Closely covered with a dark miniaceous, somewhat silky, scale-like pubescence, paler, less dense, and more scale-like beneath, and without a vestige of punctuation; upper lip and palpi brownish black; antennæ black, except the last joint, which is of a reddish-white colour; prothorax with two vague impressions in front and two behind, the latter more towards the sides; scutellum cordiform, indistinct; elytra short in proportion to the breadth, but about four times the length of the prothorax, very convex, irregular, rather abruptly declivous behind, one little callosity behind the shoulder, and two on the declivity, the epipleura curving sharply up towards the shoulder; legs black, the tips of the tibiæ and tarsi inclining to ferruginous. Length 2 lines.

* Entom. i. p. 104.

MELYTRA.

Subfamily APOCRYPHINÆ.

Antennæ apice paulo incrassatæ, art. 3^{io} sequentibus multo longiore.

Mentum subquadratum; palpi labiales art. ultimo conico; labium membranaceum.

Maxillæ lobo exteriori brevi, transverso; palpi maxillares art. ult. subsecuriformi.

Head triangular, subvertical, inserted into the prothorax nearly as far as the eyes; antennary ridge almost obsolete. Eyes prominent, round, entire. Antennæ exposed at their insertion, long, filiform, but a little thicker at the apex; scape globose-ovate, second joint obconic, third twice as long as the scape, fourth to the eighth much shorter than the third, ninth and tenth thicker than the preceding, eleventh elongate-ovate. Mentum subquadrate; lower lip very small, membranous. Maxillæ very short; outer lobe transverse, inner unarmed. Maxillary palpi long, with the last joint securiform; last joint of the labial palpi conic. Prothorax oblong, a little depressed, slightly rounded at the sides, the flanks confounded with the pronotum, base and apex truncate. Elytra rather short, ovate; epipleura vertical, narrow, with the flanks of the elytra raised above them, the shoulders obsolete; no wings. Legs moderate; femora thickened; tibiæ filiform; tarsi narrow, all nearly equal, the claw-joint elongate. Anterior coxæ globose, exserted, not approximate. Prosternum on the same plane with the rest of the propectus; the anterior cotyloid cavities rather remote from its posterior edge, intermediate with trochantins angulated externally. Metasternum shorter than the mesosternum. Interfemoral process rather narrow, triangular. Abdomen with the ventral segments nearly equal in length.

This genus and the following are so far connected that in both the flanks of the prothorax are not separated from the pronotum, and the mentum is sessile to the throat. In other respects their principal characters are very dissimilar. For further remarks I must refer to the next genus.

Melytra ovata. Pl. X. fig. 1.

M. subnitida; capite et prothorace nigro-piceis; elytris cupreis; antennis pedibusque ferrugineis.

Hab. Tasmania.

Subnitid; head and prothorax pitchy black, finely punctured; palpi and antennæ light ferruginous, the latter more than half the length of the body, and paler at the apex; scutellum transversely triangular, acuminate behind; elytra copper-brown, seriate-punctate, the punctures rather coarse and

somewhat longitudinally impressed, the intervals between the rows minutely punctate; body beneath chestnut-brown, finely punctate; legs light ferruginous. Length 3 lines.

HYMÆA.

Subfamily APOCYPHINÆ.

Antennæ clavatæ, art. tertio sequentibus haud longiore.

Mentum transversum, antice gradatim angustius; labium corneum.

Maxillæ lobo exteriori elongato, angustato; palpi maxillares art. ultimo ovato.

Head subtriangular, rounded and obtuse anteriorly, subvertical, inserted into the prothorax nearly as far as the eyes; the clypeus separated from the front by a deep slightly arched suture; antennary ridge small, auriform. Eyes conically projecting, round, entire. Antennæ exposed at their insertion, subelongate; scape globose, second joint shortly turbinate, third to the eighth elongate-turbinate, nearly equal in length, ninth and tenth nearly equilaterally triangular, eleventh ovate, pointed, not longer than the tenth, the three forming a depressed club. Mentum transverse, rounded at the sides, gradually and rapidly narrowing towards the insertion of the lower lip, the latter small, rounded, corneous. Maxillæ narrow, the inner lobe unarmed. Maxillary palpi long, with the last joint ovate, of the labial shortly cylindrical. Prothorax oblong, narrowed posteriorly, the sides rounded, the flanks confounded with the pronotum, apex and base truncate. Elytra short, ovate, the shoulders obsolete; epipleura narrow, vertical; no wings. Legs moderate; femora thickened in the middle; tibiæ gradually stouter towards the apex; tarsi lengthened, slender, the claw-joint moderate. The under parts nearly as in the preceding genus, but the anterior cotyloid cavities very close to the posterior border of the propectus, the mesosternum and metasternum a little longer, the interfemoral process very considerably broader, and the ventral segments gradually decreasing in length to the fourth.

The position of *Hymæa* and *Melytra* is somewhat doubtful. From the characters of the "*Apocryphides*," as given by M. Lacordaire*, they seem to me to belong to them. Mr. F. Bates, who has made the Heteromera his especial study, inclines to the opinion (*in litt.*) that, from the narrow antennary ridges, they are more nearly related to the *Strongyliinæ*, and that they form a distinct subfamily. In the 'Genera,' the "*Apocryphides*" are classed among the "*Hélopides*," an arrangement to which Dr. Leconte† objects, because of the absence of the

* Genera, &c. v. p. 432.

† Classif. Col. North Am. p. 218.

membranous margin of the third and fourth abdominal segments, "which is so evident in Helopini and all the allied tribes." He admits, however, that "the observation of such characters as are relied on for the classification of this family is sometimes very difficult in small species, unless specimens may be submitted for dissection." *Hymæa*, as it appears to me, has entirely corneous ventral segments, while *Melytra* has the third and fourth segments membranous posteriorly. Both have the mentum without a pedicel, and the base of the maxillæ and lower lip exposed. There are trochantins*, I think, in both. At any rate, their intermediate cotyloid cavities are angulated externally. M. Lacordaire ascribes trochantins to *Apocrypha*, although he says it is difficult to decide if they really exist. Dr. Leconte refuses them without any doubt. With regard to the antennary ridges, it sometimes happens that the difference between the continuous ridge (Platygene) and the narrowed and more limited ridge (Otidogene) is one of degree, leaving it doubtful to which category they belong. Dr. Leconte places his two North-American "tribes" Meracanthinæ and Strongyliinæ (both otidogenous) in his "subfamily Tenebrionidæ (genuini)" together with Blaptinæ, Boletophaginæ, Helopinæ, and many others, all platygenous—an arrangement very different from M. Lacordaire's, and attaching to the character a much less degree of importance than is done by him. The strongest argument against placing *Hymæa* and *Melytra* among the *Apocryphinæ* is that the mentum is attached to the throat without the intervention of a pedicel.

Hymæa succinifera. Pl. X. fig. 3.

H. nitida, fulvo-brunnea; elytris tuberculis succineo-flavis instructis.

Hab. Tasmania.

Shining fulvous brown; head rather coarsely punctured; prothorax not broader than the head measured across the eyes, coarsely punctured, the intervals here and there raised into small tubercles; scutellum large, but its limits very indistinct; elytra scarcely longer than the head and prothorax together, seriate-punctate, the punctures large and connected by a slight longitudinal impression, a few erect, stiffish hairs scattered chiefly at the sides; on each elytron towards the outer side two rows of large, oblong, amber-like tubercles, the outer of

* The trochantin is a small piece attached to the outer edge of the coxa; in the Tenebrionidæ, when it is present, it is confined to the intermediate pair, and it is generally, if not invariably, correlated with a cotyloid cavity having a very pronounced angle over the spot where it occurs. I have given a diagram of the coxa with a trochantin attached on Pl. X. fig. 9.

them of three (one on the shoulder), the inner of two tubercles, and one or two spots of the same amber-colour; body beneath brownish ferruginous, coarsely punctured; antennæ and legs yellowish ferruginous, with a few longish scattered hairs. Length 2 lines.

Atryphodes Howittii.

A. viridi-æneus, aureo-versicolor, nitidus; prothorace transverso, angulis anticis rotundatis, lateribus modice foliaceis, rotundatis, sulcis discoidalibus leviter impressis; elytris costis alternis minoribus.

Hab. Kiama.

Greenish bronze, with varying golden reflections, shining; antennæ pitchy black; prothorax transverse, broader than the elytra, anterior angles rounded, the sides with a moderately wide foliaceous margin, slightly rounded, narrower at the base, the discoidal lines shallow, the lateral abbreviated; scutellum subcordiform; elytra about twice the length of the prothorax, their alternate costæ much smaller than the others; body beneath and legs pitchy brown, shining. Length 10–11 lines.

Atryphodes is perhaps better known under its old name *Thoracophorus**; but, as that name had been previously used by Motschulsky, I proposed to replace it by the above†. The characters as given by M. Lacordaire‡ apply to all the species hitherto described, and therefore they need not be repeated here. Only one species was then known (*A. Walckenaeri*, Hope); the other two, *dilatocollis*, Guér., and *Kirbyi*, Sol., I have no doubt are referable to it. The above is a very handsome species, and easily distinguished by its colour. All the species appear to have the head and prothorax impunctate, or nearly so, the former has a frontal horseshoe-shaped or stirrup-like impressed line, the anterior portion being the groove dividing the clypeus from the front; on the prothorax there are a central and two lateral impressed lines, each terminating posteriorly in a more or less strongly marked fovea; the lateral lines are frequently abbreviated. The males have the anterior tarsi slightly dilated, and the antennæ thicker than in the females. I am not sure that the greater breadth

* Erichson said long ago, "The name must be altered, not only because it has been already used, but also because it does not comply with the rules of nomenclature." Wiegmann's Arch. 1842, ii. p. 239. *Thoracophorus*, however, in Motschulsky's sense, has been adopted by Dr. Gemminger and Baron von Harold in their great 'Catalogus Coleopterorum,' now in course of publication.

† Journ. of Entom. ii. p. 478 (1866).

‡ Gen. v. p. 436.

of the prothorax noticeable in some individuals is always a sexual character.

Atryphodes Castelnaudi.

A. niger, vix nitidus; prothorace transverso, angulis anticis obtusis, lateribus rotundatis, modice foliaceis, sulcis discoidalibus subtiliter impressis; elytris subnitidis, costis alternis minoribus.

Hab. Kiama.

Black, scarcely or only very slightly nitid on the head and prothorax, more so on the elytra; antennæ nitid, especially at the base; prothorax transverse, not broader than the elytra, anterior angles obtuse, the sides with a moderately wide foliaceous margin, well rounded, and considerably narrower at the base; the discoidal lines nearly obsolete, except at the base, the foveæ in which they terminate very shallow; scutellum subcordiform; elytra about twice the length of the prothorax, their alternate costæ smaller than the others; body beneath and legs pitchy black, shining. Length 10–11 lines.

I have dedicated this fine species to Count F. de Castelnau, who, in addition to numerous previously well-known entomological works, has recently presented us with an apparently exhaustive list of the Australian Cicindelidæ and Carabidæ.

Atryphodes cordicollis.

A. niger, nitidus; prothorace subcordiformi, lateribus modice foliaceis, antice fortiter rotundatis, postice conniventibus, angulis anticis late rotundatis, sulcis discoidalibus fortiter impressis, lateribus elongatis; elytris costis æqualibus.

Hab. Brisbane.

Black, shining; included part of the stirrup-shaped impression of the front raised above the surrounding parts; prothorax somewhat heart-shaped, the sides with a moderately wide foliaceous margin, strongly rounded anteriorly, gradually contracting behind into a narrow base; anterior angles broadly rounded; discoidal lines strongly impressed, the two lateral nearly extending to the apex, becoming, however, gradually fainter; scutellum deeply ensconced between the elytra, rounded posteriorly; elytra more than twice the length of the prothorax, their costæ equal; body beneath and legs glossy brownish chestnut, tarsi ferruginous. Length 9–10 lines.

The strongly marked form of the prothorax is exclusively the character of this species.

Atryphodes ericollis.

A. niger, nitidus; capite prothoraceque æreo-brunneis, hoc trans-

verso, angulis anticis obtusis, marginibus sat late foliaceis, sulcis discoidalibus lateralibus interruptis; elytris costis æqualibus.

Hab. Queensland.

Black, shining; head and prothorax bronze-brown, the former with the frontal impression somewhat hexagonal, the upper line forming three shorter sides; antennæ black; prothorax transverse, strongly rounded and rather broadly foliaceous at the sides, the anterior angles obtuse, lateral discoidal lines interrupted; scutellum triangular, on the same level as the elytra; the latter about twice the length of the prothorax, their costæ equal; body beneath and legs glossy brownish black. Length 6 lines.

This species in habit more nearly approximates, although very different, to *A. Howittii*; but the strongly rounded prothorax is more characteristic of *A. Walcknaeri*. Its precise habitat is uncertain.

Atryphodes encephalus.

A. angustatus, niger, nitidus; prothorace oblongo, antice sat fortiter emarginatus, lateribus anguste foliaceis, modice rotundatis, sulcis discoidalibus lateralibus interruptis vel fere obsoletis; elytris costis æqualibus.

Hab. Rockhampton.

Narrow, black, shining; part within the frontal impression raised and marked above with two foveæ; prothorax oblong, sides slightly rounded, foliaceous margin of moderate width, anteriorly rather strongly emarginate, the anterior angles somewhat obtuse, central discoidal line well marked, the two lateral interrupted, occasionally nearly obsolete; scutellum triangular, lying below the level of the elytra; the latter about the width of the prothorax and nearly twice as long, their costæ equal; body beneath and legs glossy pitchy brown. Length 7 lines.

A narrow species, readily distinguished by its strongly emarginate prothorax.

Atryphodes pithecius.

A. niger, subnitidus, elytris cupreo-fuscis; prothorace paulo convexo, utrinque modice rotundato, marginibus anguste foliaceis, sulcis lateralibus nullis.

Hab. Queensland.

Black, slightly nitid, the elytra dark copper-brown; antennæ brownish, much more slender in the female; prothorax rather longer than broad, slightly convex, the anterior angles obtuse, the margins narrowly foliaceous, the sides most rounded an-

teriorly, straighter behind the middle, not incurved at the base towards the posterior angle, which is therefore obtuse, the lateral dorsal grooves represented only by the foveæ at the base; scutellum small; elytra as broad as or broader than the prothorax, ovate, the costæ equal in breadth; body beneath and legs glossy brown; tarsi ferruginous. Length 7-8 lines.

Allied to *A. errans*, Pasc., a black glossy species, but differing essentially, *inter alia*, in the form of the prothorax, which is longer, considerably less rounded posteriorly, and with the foveæ, but without any trace of the lateral grooves. I have four specimens, all slightly differing, *inter se*, but agreeing in the characters given above. Another very near may hereafter, on more extensive examination of specimens, be found distinct.

The species of *Atryphodes* form three divisions: all above described, together with *errans* and *brevicollis**, belong to the *Walcknaeri* category, and are more or less glossy, with the foliaceous margins of the prothorax below the general level of its disk; the second category contains *Macleayi*, *aratus*, and *egerius*, and are opaque, with the margins directed upwards, especially in the two former, and the disk of the prothorax flat and lying below them; lastly, there is the following species, in which the foliaceous margins become obsolete.

Atryphodes caperatus.

A. angustatus, niger, nitidus; prothorace oblongo, angulis anticis leviter rotundatis, lateribus haud foliaceis, in medio haud rotundatis, ad basin subito contractis, sulcis discoidalibus interruptis.

Hab. Hunter's River; Darling Downs.

Narrow, black, shining; frontal space with five foveæ (three above, two below); prothorax oblong, slightly broader than the elytra, sides moderately rounded anteriorly, then nearly straight, but narrowing posteriorly, near the base rounded, and then suddenly contracted and passing into the usual acute basal angle; no foliaceous margin, the two lateral discoidal lines broken up and irregular, but varying in different individuals; scutellum transverse, scarcely below the level of the adjacent part of the elytra; the latter considerably more than twice the length of the prothorax, and with a bronze tint, their costæ equal; body beneath and legs glossy brownish black, the first two abdominal segments with a more or less decided broad longitudinal depression. Length 9 lines.

A very narrow form, without foliaceous margins to the prothorax, and in these respects leading to *Otrintus*. The frontal

* Redtenbacher, Novara-Reise, p. 130. The "*licinoides*" of the same author appears to be synonymous with *aratus*.

foveæ are, in one of my specimens, connected with the upper central one by impressed lines; in another there are four or five irregular undefined depressions.

BLEPEGENES*.

Subfamily ADELIINÆ.

Caput exsertum, culmen supraantennarium in spinam productum.

Maxillæ lobo interiore majore, subquadrato, apice dense fimbriato.

Prothorax apice truncatus.

Elytra costata, plica epipleurali ad humerum haud attingente.

Head exserted, gradually narrower behind the eyes, the antennary ridge prolonged into a nearly erect, slightly recurved spine; clypeus very thick, rather suddenly bent down anteriorly, its apex emarginate, separated from the front by two fine oblique lines not meeting in the middle. Eyes transverse, narrow, entire. Antennæ filiform; the scape obconic, the third joint not so long as the fourth and fifth together, thickened at the tip, the rest to the tenth subequal, obconic; the eleventh not dilated, longer than the preceding joint. Mentum very narrow at the base, spreading and rounded at the sides and anteriorly; lower lip transverse, bilobed, its palpi small. Maxillæ small, densely fringed, the inner lobe larger than the outer and unarmed; their palpi slender, the basal joint elongate, the last securiform. Prothorax depressed, spined at the sides, apex narrowed, truncate, posterior angles obliquely truncate. Elytra oblong-ovate, costate, flat above; epipleura terminating before the apex, the epipleural fold slightly sinuate, not extending to the shoulder. Legs rather long; femora and tibiæ slightly compressed; tarsi slender, the anterior in the males rather strongly dilated, the penultimate joint of all subbilobed. Sterna and abdomen as in *Adelium* and *Atryphodes*.

Although this genus has the subbilobed tarsi of *Adelium*, its affinity appears to me to be nearer *Atryphodes*, on account of its costate elytra, only slightly sinuate epipleural fold, and habit; in the latter respect it approaches *Atryphodes egerius*. It is among the most remarkable genera of Tenebrionidæ. The earliest specimens of this species which I saw were stated to be from Queensland; Dr. Howitt, however, gives Kiama as the habitat of the individuals he has kindly sent me.

* This genus, with its type, was shortly described by me and published in the Proc. Ent. Soc. for April 1868. From some error, "*Clypeus valde*" was printed "*Clypeus haud*." M. Preudhomme de Borre some time after published a description of the same species, in the 'Annales' of the Belgian Entomological Society, under the name of *Ceradelium armatum*.

Blepegenes aruspex. Pl. X. fig. 2.

B. cupreo-fuscus vel -niger, subopacus; elytris costis quatuor nitidis.

Hab. Kiama.

Dark copper-brown or bronze, sometimes bronze-black, nearly opaque; head and prothorax impunctate, the latter with four foveæ on the disk, or the lateral foveæ are connected and form an irregular longitudinal impression, each side before the middle expanding into a strong triangular spine, subhorizontal or directed a little upwards; near the base a much smaller spine or tooth, the posterior part of which slopes directly inwards to the base; scutellum transversely triangular; elytra more than three times the length of the prothorax, each with four glossy costæ, none of them reaching to the apex, the sutural and second costa having a less elevated opaque costa between them, each apex ending in a short diverging mucro; legs ferruginous brown, shining; body beneath very glossy, brown; antennæ ferruginous. Length 8-9 lines.

BYALLIUS.

Subfamily *ADELIINÆ*.

Antennæ art. tertio elongato, cylindrico.

Frons parum convexa, sulci longitudinales nulli.

Maxillæ lobo interiore unciniformi.

Elytra obovata, reticulata, plica epipleurali obsoleta.

Head deeply inserted into the prothorax, the front slightly convex, without any grooves; the clypeus broadly truncate at the apex, separated from the front by a narrow, distinct, arched line. Eyes transverse, impinged on by the antennary ridges. Antennæ filiform; scape obconic, the third joint cylindrical, longer than the fourth and fifth together; the two latter and remainder to the tenth obconic, becoming very gradually shorter; the eleventh longer, ovate, depressed. Mentum rather narrow behind, rounded at the sides anteriorly; lower lip transverse, slightly emarginate and fringed at the apex, largely excavated in the middle on each side for the insertion of the labial palpi. Maxillæ with the inner lobe narrow, curved, and gradually terminating in a very distinct point; their palpi stout, the basal joint very short, the terminal securiform. Prothorax depressed, slightly foliaceous and rounded at the sides, the apex strongly emarginate and much narrower than the base, the latter broadly lobed. Elytra obovate, reticulate, the epipleural fold obsolete. Legs moderately long; femora nearly linear, compressed; posterior tarsi compressed, the basal joint nearly as long as the rest together, the penulti-

mate of all entire. Mesosternum deeply notched for the reception of the prosternal process. Metasternum and abdomen as in *Adelium*, the former, however, rather longer.

This is a very distinct genus, for which at present it is difficult to assign any very near ally, although its habit is that of *Atryphodes*.

Byallius reticulatus. Pl. X. fig. 6.

B. niger, infra et pedibusque nitidis.

Hab. Mountains of Gippsland.

Black; head and prothorax very slightly nitid, minutely punctured, the lateral borders of the latter recurved; scutellum very transverse and glossy; elytra gradually broader from the base, shortly rounded towards the apex, wrinkled with small irregular vermiculate depressions, giving the whole surface a reticulate appearance, the epipleuræ minutely punctured; sterna, abdomen, and legs black, shining; tarsi ferruginous brown, clothed beneath as well as the edge of the lip with rich golden hairs; antennæ with a greyish pubescence towards the tips. Length 9 lines.

*Seirotana** *proxima*.

S. nigra, convexa, subnitida; prothorace marginibus erosis; elytris fusco-æneis, lineis interruptis elevatis, interstitiis biseriatis punctatis.

Hab. Victoria.

Resembles *S. catenulata*, Boisd., but more convex, entirely subnitid above; the elytra dark brown bronze, with double rows of small simple punctures between the raised interrupted lines or tubercles. In *S. catenulata* the middle of the prothorax and elytra is decidedly flattish, the latter a pure dense black, and between the glossy lines of tubercles opaque; the punctures, also in double rows, have each a glossy granule at the anterior edge. The prothorax in both species is marked with minute short longitudinal lines, between which the punctures are placed, and the lateral margins are jagged or erose at their edges. Dr. Howitt says that this new species is the Victorian representative of *S. catenulata*, whose habitat appears to be confined to the Sydney district. My specimens of *S. proxima* are about 6 lines long; the older species is larger.

Seirotana crenicollis (Howitt's MS.). Pl. X. fig. 4.

S. planata, brunnescens, subopaca, granulis nitidis instructa, mar-

* Pascoe, Journ. of Entom. ii. p. 483.

ginibus prothoracis crenatis; elytris lineis interruptis elevatis, et granulis minutis seriatim interpositis.

Hab. "Mountains of Victoria."

Light reddish brown, subopaque above, with numerous glossy granulations of various sizes; antennæ dark brown; head finely granulate; prothorax longer than broad, nearly flat, closely covered with small irregular granulations, the margins pale yellowish brown and crenate; scutellum nearly hidden by the overlapping base of the prothorax; elytra nearly flat, except towards the apex, where they bend down rather suddenly, a little wider than the prothorax at the base, the sides subparallel; the disk with granulations mostly of two sizes, the largest (of a dark amber-colour) forming interrupted lines, of which there are four on each elytron; between these lines are rows, generally three in number, of small round ones; body beneath thickly granulated; legs light reddish brown, femora with a broad yellow ring near the apex; tarsi slender, filiform. Length 5-6 lines.

A remarkable species, somewhat departing from the normal form in the longer prothorax and very slender tarsi. *Seirotana* is distinguished from *Adelium* by its prothorax closely applied to the elytra, and the shortness of the third antennary joint, and from *Coripera* by the complete or nearly complete absence of the epipleural fold; it is barely to be noticed in the above species, being indicated by a very narrow line nearly in the middle of the epipleura.

*Coripera** *ocellata* (Howitt's MS.). Pl. X. fig. 5.

C. cupreo-fusca, nitida; elytris biserialim impressis, interstitiis annulis oblongis impressis, marginibus disci flavis.

Hab. Mount Macedon (Victoria).

Dark copper-brown; head finely and irregularly punctured; prothorax with minute shallow punctures, its lateral margins paler; scutellum small, transverse; elytra nearly flat above, each with seven rows of small punctures, the two outer on the epipleural line, the inner bordering the suture, the four intermediate lines placed in pairs, each pair and the sutural and marginal rows separated by a line of oblong impressed rings; the disk bordered with yellowish; body beneath and legs very glossy brown; antennæ and tarsi ferruginous, the latter very slender, filiform. Length 4-5 lines.

Closely agreeing in form with *C. deplanata*, Boisd., but very distinct on account of the peculiar sculpture of the elytra. In my description of the genus *Coripera* the term epipleura was

* Pascoe, Journ. of Entom. ii. p. 483.

by some oversight used to express the epipleural fold, which, although narrow, is well marked and extends along the whole length of the epipleura; the latter is nearly vertical.

EXPLANATION OF PLATE X.

- Fig. 1. *Melytra ovata*: a, mentum, lower lip, &c.; b, maxilla &c.
 Fig. 2. *Blepegenes aruspex*: a, mentum &c.; b, maxilla &c.; c, head.
 Fig. 3. *Hymæa succinifera*: a, mentum &c.; b, maxilla &c.
 Fig. 4. *Seirotrana crenicollis*.
 Fig. 5. *Coripera ocellata*.
 Fig. 6. *Byallius reticulatus*: a, mentum &c.; b, maxilla &c.
 Fig. 7. *Ganyme Howittii*: a, antennæ.
 Fig. 8. *Orcopagia monstrosa*: a, mentum &c.; b, maxilla &c.; c, antenna; d, head; e, fore tibia. N.B. The figure is much too broad in proportion.
 Fig. 9. Coxa and part of the femur of a *Pimelia*: a, the trochantin; b, the trochanter. The left side is supposed to be towards the spectator.

[To be continued.]

XI.—Contributions to the Study of the Entomostraca.

By GEORGE STEWARDSON BRADY, C.M.Z.S. &c.

No. IV. *Ostracoda from the River Scheldt and the Grecian Archipelago.*

[Plates VII. & VIII.]

*Lists of Species.**River Scheldt, near Antwerp.*

Cypris gibba, Ramdohr.
Cypridopsis obesa, nov. sp.
Candona candida (Müller).
 — *compressa* (Koch).
 — *lactea*, Baird.
Cythere viridis, Müller.
 — *pellucida*, Baird.
 — *castanea*, Sars.
 — *porcellanea*, nov. sp.
 — *villosa* (Sars).
 — *fuscata*, nov. sp.
 — *pulchella*, Brady.
Cytheridea littoralis, Brady.
 — (?) *cornea*, nov. sp.
Loxoconcha elliptica, Brady.
Xestoleberis aurantia (Baird).
Cytherura similis, Sars.
 — *flavescens*, nov. sp.
 — *acuticostata*, Sars.
 — *cellulosa* (Norman).
Cytherideis subulata, Brady.
Paradoxostoma variabile (Baird).

Besika Bay, 14 fathoms.

Pontocypris (?) *angusta*, Brady.
 — *intermedia*, Brady.
Cythere tenera, Brady.
 — *crispata*, Brady.
 — *affinis*, nov. sp.
 — *senticosa* (Baird).
 — *plicatula*, Reuss.
 — *tarentina*, Baird.
 — *antiquata* (Baird).
 — *Jonesii* (Baird) and var. *ceratoptera*.
*Cytheridea Müller*i, Bosquet.
 — *littoralis*, Brady.
 * *Ilyobates judæa*, Brady.
Loxoconcha glabra, Brady.
 — *tumida*, nov. sp.
 — *angustata*, nov. sp.
Xestoleberis margaritea, Brady.
 * — *intermedia*, Brady.
Cytherideis teres, nov. sp.
Paradoxostoma ensiforme, Brady.
Cytherella punctata, Brady.